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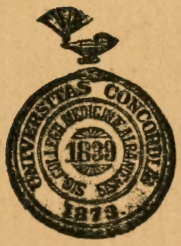
Vol. XXXVII No. 5

Biological
& Medical
Serials

ALBANY MEDICAL ANNALS

Journal of the Alumni Association of the
Albany Medical College

MAY, 1916



Ασφαλὲς καὶ ἔμπεδον ἔστω το σὸν ἔδος. Ἐκ σκότου μὲν
ἔξαγε φάος, ἐκ δὲ πάθους ἀναψυχήν.

STORAGE

ALBANY MEDICAL ANNALS

Journal of the Alumni Association of the Albany Medical College

ALUMNI COMMITTEE

A. VANDER VEER, M. D. W. G. TUCKER, M. D. ANDREW MACFARLANE, M. D.

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Publisher's Department

The rise of immunology as a department of medical science has been so rapid that its importance is not fully realized by the medical profession. Since that time the growth of the H. K. Mulford Company's Laboratories at Glenolden, serves as an index of the growth of Bacterin and Serum Therapy in the United States.

Diphtheria Antitoxin was first generally used in 1894. At that time smallpox vaccine was the only biological product of any importance. Its propagation was carried on in stables without any aseptic precautions. Thanks to the work of Pasteur, attention was called to the danger of contamination in vaccine virus and its manufacture put upon a sanitary basis by the H. K. Mulford Company and later placed under government control.

The H. K. Mulford Company were the first propagators to employ the elaborate equipment necessary for the scientific production of vaccine. Their specially equipped establishments at Glenolden are situated on a farm remote from the city, where the air is comparatively pure and wholesome. All of the operations in producing vaccine are carried on under the direct supervision of an experienced propagator, and the vaccine is carefully tested before it is distributed for use.

Having already established laboratories for the production of smallpox vaccine, the H. K. Mulford Company was prepared to consider the production of diphtheria antitoxin, and was the first house to place the product on the market commercially in the United States. From this beginning, the growth of the biological business conducted by the H. K. Mulford Company rapidly increased, and tetanus antitoxin, antipneumococcic serum, antistreptococcic serum and other anti-microbe serums were added to the list of biological products.

Then Sir Almroth E. Wright, of the British Army, introduced his revolutionary method of treating infectious diseases and immunizing against them with bacterial vaccines, and the result is well known to the profession. Typhoid fever has virtually been eliminated from the armies of the world by the use of bacterial vaccines, and many other infectious diseases are yielding to preventive and curative measures that two decades ago were killing their thousands and tens of thousands.

The Mulford Company were also the first to prepare these bacterial vaccines commercially in the United States and by their system of bulletins materially aided the profession in their introduction throughout the world. The H. K. Mulford Company were also the first to adopt the method of Besredka for producing sensitized bacterial vaccines which they are supplying under the name "Sero-bacterins" to distinguish them from the sensitized vaccines produced from living cultures, also employed by Besredka, but not suitable for commercial introduction, owing to the possible danger of producing carriers or in some other way spreading infection.

The drop in diphtheria mortality from 44% before the introduction of diphtheria antitoxin to 12% after the antitoxin had become generally employed was considered marvelous, but now that typhoid fever is under control, and plague, cholera and other infectious diseases are also being placed under control by the immunizer, and epidemic cerebrospinal meningitis has largely lost its terrors, we no longer regard the diphtheria antitoxin statistics with the same degree of surprise.

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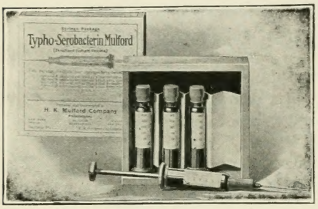

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Full literature mailed upon request.

* British Medical Journal, 1915, 1445; Jour. Royal Army Med. Cor., 1911, XVI; Press Medicale, Feb. 10, XXIV, No. 8, p. 5764; Lancet, Sept. 19, 1914; Jour. A. M. A., June 26, 1915, editorial; Amer. Jour. Med. Science, 1915, CXLIX 406; Jour. A. M. A., August 7, 1915; Jour. A. M. A., July 24, 1915. †Am. Jour. Med. Sci., 1915, CXLIX 406.

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Dr. White describes Silvol as "a metallic silver in colloidal combination with a proteid base, and slightly alkaloidal in reaction. It occurs in black, metallic, lustrous scales, slightly hygroscopic and very readily soluble in water. In solution it gives a rich seal brown color and produces only a temporary stain to clothing or dressing, which is completely removed by rinsing in warm soap suds. The preparation is so soluble that it requires only a moment to make the necessary solution. It is practically non-irritating in any reasonable dilution. The solution does not require filtering; and I wish to emphasize this fact, as it has been my experience with other similar products, especially in heavy solution, that a tarry substance will appear upon the surface, and, unless this is filtered out, it produces more or less irritation to the sensitive mucous membranes upon drying, leaving a very disagreeable burning or smarting sensation to the parts. None of my patients complained of pain or showed any irritation when a ten-per-cent. solution was used; on the contrary, they have expressed a feeling of comfort and a soothing sensation immediately following the application."

In summarizing, Dr. White names these advantages as applying to Silvol: "Quick solubility in any solution necessary for application to mucous membrane; less staining than by other proteid silver preparations; high percentage of silver content; minimum amount of irritation when applied to mucous surface; low percentage solutions necessary as compared with other similar preparations."

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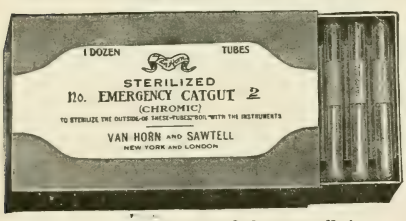

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VOL. XXXVII MAY, 1916 No. 5

ALBANY MEDICAL ANNALS

Original Communications

REPORT OF THE HEALTH DIRECTOR OF THE ALBANY PUBLIC SCHOOLS.

BY CLINTON P. McCORD, M. D.

(This report covers the year, July 1, 1914 to June 30, 1915.)

July 1, 1915.

Dr. C. EDWARD JONES, *Superintendent of Schools:*

DEAR SIR.—I have the honor to submit to you this, my third annual report upon health work in the schools.

With our present working unit we deemed it wiser to concentrate our routine effort upon a few definite lines than to dissipate it upon a number of school health needs, just as vital, but attention to which does not yield such concrete results. The forenoons are given entirely to routine visitation of schools. The giving of tests for defective vision and hearing to pupils of all the elementary grades would consume all the afternoons, therefore it is evident that if eye and ear tests of all pupils were required from our nurses no time would be left them for the most important feature of their work—the home visiting. We therefore confined our examinations of eyes and ears to the children of those grades that receive routine physical examination by the Health Director, namely, the first and fifth grades, plus miscellaneous cases seen at the time of the morning school visitation, plus a re-examination of cases notified of defects last year but still remaining uncared for.

For the period, July 1, 1914, to June 30, 1915, the following are the quantitative tabulations:

Staff.

Health director (full time).

Four school nurses (full time).

Dentist (employed for 100 half-days under supervision of health director).

Number of pupils registered		13,593
Number of school visits by health director		186
Number of school visits by nurses		2,054
Number of home visits by nurses		1,165
Number of half-days' professional service by dentist		95
Number of children receiving routine physical examination:		
First grade	1,292	
Fifth grade	1,026	
		2,318

Tabulation (based on the above 2,318 first and fifth grade pupils):

Defective vision:		
First grade	90	
Fifth grade	91	
		181
Glasses secured (based on 191 cases not treated last year, plus 80 of the above 181 defective first and fifth grade pupils)		206
Number of these glasses bought by the Board of Education		28
Number cases of defective hearing:		
First grade	22	
Fifth grade	39	
		61
Number notified		25
Number treated		3
Number cases diseased tonsils:		
First grade	60	
Fifth grade	56	
		116
Number treated		2
Number operated		21
Number cases serious nasal obstruction:		
First grade	3	
Fifth grade	3	
		6
Number cases decayed teeth (three or more):		
First grade	419	
Fifth grade	159	
		578
Treated by dentists		19
Treated at dispensary		173

Number cases poor nutrition:		
First grade	94	
Fifth grade	22	
		116
Number cases nervousness:		
First grade	157	
Fifth grade	120	
		277
Stooped shoulders:		
First grade	220	
Fifth grade	253	
		473
Lateral curvature:		
First grade	152	
Fifth grade	107	
		259
Other orthopedic and miscellaneous defects		35
Enlarged cervical nodes:		
First grade	168	
Fifth grade	97	
		265
Chronic pharyngitis:		
First grade	43	
Fifth grade	107	
		150
Eczema (various kinds):		
First grade	79	
Fifth grade	40	
		119
Marked speech defect		14
Extreme general uncleanliness		18

In addition to the foregoing are the following cases seen at the time of the routine forenoon visits to the schools and spoken of as "miscellaneous cases":

Pediculosis	515
Number cured	72
Number improved	205
Sore-throat with temperature, cultures taken and children excluded	80
Number of "positive" cultures	3
Additional cultures (suspected grade)	39
Number "positive" cultures	2
Eczema (all kinds)	173
Contagious impetigo	29

Ringworm:		
Scalp	9	
Body	21	
		30
Conjunctivitis:		
Simple	33	
Phlyctenular	6	
		39
Discharging ears		30
Favus		3
Scabies		3
"Miscellaneous" cases receiving treatment		123
Emergency treatments		557
Other cases seen by nurses (including styes, headaches, nausea, urticaria, sprains; pupils sent unnecessarily)		2,009
Pupils inspected after absence because of illness		81

Miscellaneous Cases Not Recorded Under Former Headings.

Ozena	1
Fractured radius	1
Extreme general uncleanliness	6
Concussion of brain	1
Alopecia areata	2
Goitre	2
Acute adenitis	2
Mongolianism	2
Cleft palate	3
Organic heart disease with epilepsy	1
Epilepsy	2
Pulmonary tuberculosis	1

Contagious Disease.

Number of Pupils Excluded from Schools for Varying Periods of Time, with Reason for Exclusion.

Pediculosis	277
Scarlet fever	116
Diphtheria	58
Measles	32
German measles	1
Mumps	3
Chicken-pox	161
Whooping-cough	35
Tonsilitis and sore throat	80

Contagious impetigo	29
Scabies	3
Favus	3
Ringworm of scalp	9
Ringworm of body	21
Acute conjunctivitis (simple)	33

The satisfactory arrangement effected with Dr. Arthur Sautter, the city Health Officer, last year for an exchange of reports by telephone each morning, still continues. I venture to state that few city health bureaus in the State are as effectively managed as is the Albany bureau, especially in the matter of co-operation with the school health officers in the control of the acute communicable diseases. Our office has received every courtesy not only from Dr. Sautter but from every member of his staff and office force, and because of this harmonious understanding and ready co-operation we are at all times able to combat these diseases as they occur in school children with increasing satisfaction and along the most modern lines of school hygiene.

Five diphtheria "carriers" were located by means of routine throat culture, excluded from school and quarantined by the Health Bureau, thus protecting several hundred children from exposure to sources of the disease.

Health Certificates.

Health certificates were furnished by the parents of 1,800 children in the elementary grades. They were filled out by 165 different physicians and the results are as follows:

Number of children having

Defective lungs	1
Heart lesions	13
Defective glands	94
Hernia	21
Enlarged, cryptic tonsils	254
Frequent sore throat	35
Chronic pharyngitis	24
Adenoids	65
Nasal spurs	14
Digestive disturbances	1
Poor nutrition	3

Poor teeth	58
Other physical defects	81
Communicable diseases	2

School Dental Dispensary.

Number half-days dental dispensary was operated	95
Number children examined	263
Number cases completed	90
Number cases partially completed	173
Number operations (including treatments, fillings, extractions and draining of abscesses)	887

We continue the policy of concentrating upon the preservation of the "six year" molars. This practice of concentration that Dr. Canaday pursues means that a smaller number of cases will be handled, but we believe that more actual good will be accomplished by *adequate* treatment of 200 children each school year than by *partial* care of twice or three times this number.

Several delegations from other states have visited Albany during the past year to study the administration of the dental dispensary, and we have received numerous inquiries from city clerks, corporation counsels, boards of education and superintendents of schools of cities of this and other states in reference to the methods of establishment and operation of this valuable institution.

Ungraded and Special Classes

I believe that the recent appointment of a skilled and experienced director of special classes places the work of these classes on the highest plane of efficiency. The regular monthly meetings of the special class teachers with their supervisor is extremely valuable and marks the earnestness and sincerity of this group, inasmuch as we here find teachers that are actively advancing themselves along the line of their profession while engaged in their routine work. This little band of teachers brings to mind the fact that one of the privileges of workers within a public school system is the opportunity to advance in knowledge of the human aspects of education and its large social background.

I am pleased to report that our "follow up" system for ungraded and special class cases has been initiated and enough

work has been done to indicate the importance of this step and to suggest the value that complete records along this line would be to our system. I trust that the future may find us with more time to attack this very important phase of health direction. It is gratifying to follow your policy of extension of the special class system, and I look forward with satisfaction to the opening of the proposed class in the new School No. 14 in the autumn. The need there is a real one and we have more than enough children to fill the class.

It has been our aim to keep our records of all ungraded and special class pupils "up-to-date." This has meant that all children who have been in the ungraded and special classes over a year have received a second psychological examination. As a result of the year's experience with the children from the school standpoint, plus our psychological findings, we have a more comprehensive knowledge of the child as an individual and are in a better position than ever to render a prognosis as to his future progress and development.

There still remains an important part of our work that at present we have time to deal with only in exceptional instances. I refer to the need for intensive study of the delinquent children who are not of subnormal intelligence, and also that larger group of extremely nervous, erratic and peculiar children in the regular grades. I hope soon to find time to begin this work. We have had for over a year in one of our special classes a case of word-deafness, neglected for six or seven years. Under proper attention she is progressing nicely, but it will require some years of work to offset the years of neglect. Before this time has elapsed the child will doubtless pass beyond the touch of the public schools, and still handicapped to a marked degree will live in a relatively helpless condition. This child might look forward to a far different future had her condition been discovered six or seven years ago. Conditions with almost as much bearing on mental development and future personal fitness exist in children scattered through our grades, and I wish to emphasize the need for classification of all such children on the basis of careful psychological examination, and the provision and application of

proper treatment and training. This will be possible only with further extension and development of the special class system.

During the past year thirty-one cases have been seen in consultation with physicians or have been examined for various social and educational institutions. These cases represented the feeble-minded, nervously unstable or delinquent types.

A quantitative statement of the year's work follows:

Number of ungraded and special class children under observation and training during the year		166
Cases receiving first examination	96	
Cases receiving second examination	70	
Additional children examined		27
Total number of psychological examinations		193

Space does not permit of a statement of the many interesting conditions revealed by these examinations.

Open-Air Classes.

The old open-air school at Ash Grove place had a maximum attendance of thirty-three pupils. This is too many for one teacher, but Miss Mullin with real open-air spirit never refuses an additional case. Six of her children will be ready to return to the regular schools as seventh grade children in the autumn. Thirty-two children in all were placed in the open-air class at School No. 6. Twenty-one were registered at the close of school in June. About 100 days were missed during the year by these twenty-one children. The average was five absences for each child, usually due to lack of clothing, especially shoes. A few absences were due to illness in the home and a couple of cases to minor illness of the child himself. One child who was extremely anaemic upon entrance and whose parents at first objected to the treatment, gained steadily in weight and improved greatly in his appearance. The last month of school, however, he was kept home, and the family physician later reported the involvement of his lungs. What might have been done for this child in an open-air room had he been discovered several years before! All the children on entering were pale, languid and lacking in mental alertness. A smile upon the lips of any of them was a rare thing.

The gain in weight was steady for all of them. Some of them gained as much as seven or eight pounds during the term. They all had an expert chest examination at the dispensary and all were free from pulmonary tuberculosis. They progressed more rapidly in their studies than they had done in regular grades and their attendance was far more satisfactory. Very few of them suffered from colds or other illness. Toward the end of the year a remarkable change was evident in their appearance and in their mental alertness. They are now smiling, happy children. A hot dinner was served at noon and they slept for an hour. Their teeth were put in good shape at the dental dispensary and they were given tooth brushes and tooth paste and were instructed in the use of them. They were weighed every week.

We are greatly indebted to Dr. Hawn, Chief of the Tuberculosis Clinic, and to his staff, especially Dr. Rissberger and Dr. Lawrence, for their chest examinations of these children. Miss Florence Freeman, R. N., has also co-operated in the investigation of cases for the school at Ash Grove place.

Your proposed open-air school on the roof of the new School No. 14 gives promise of being the finest school of its kind in the United States. We have more than enough cases registered for this school as soon as it is ready to receive them.

Let me mention the fine co-operation on the part of the Director of Vocational Work, and the excellent piece of work that Miss Hendrie has done in connection with the open-air class at School No. 6. The meals that she has planned have furnished these children with about two-thirds of a day's rations, and the effect on their physical condition has been marked.

Miss Walsh, the teacher of this open-air class, has been particularly successful in developing habits of physical cleanliness amongst her pupils; and this is an important part of their treatment.

The excellent co-operation that has existed between our nurses and the attendance officers merits special mention.

During the year the Health Director has examined physically twenty-eight teachers, newly appointed in the system.

The various dispensary chiefs, especially those in charge of the eye clinics, have been most kind in the matter of handling inves-

tigated school children referred because of physical defect or contagious skin disease.

The automobile that is now available I am sure will markedly help in handling much of our work in a more expeditious manner.

The length of this report prohibits a discussion of various activities under health direction that have developed to such large proportions as to warrant being dealt with in separate reports. I am looking forward to making comparative health surveys of the various schools, with the end in view of standardizing our work in reference to different sections of the city. It has occurred to me that excellent purposes would be served by the issuance of health leaflets from time to time, dealing with definite health problems in a practical way under local conditions.

During the year the Health Director has given seventy-one lectures and addresses before various audiences. Four talks have been given by the nurses.

Our nurses have now developed experience of great value along their line of work. We miss greatly the earnest, sympathetic activity of Miss Elsa Scherrer, one of our original group of nurses, who was married during the year. Miss Anna V. Spellacy, who filled the vacancy temporarily, showed remarkable aptitude for this line of work. Miss Marie Tripole, the permanent appointee, has taken up her duties with a spirit that speaks well for her future efficiency.

The age record cards for the year have been tabulated.

I recommend the addition to our staff of four part-time physicians and four full-time school nurses, after the plan outlined in my report of last year.

To our nurses, ever loyal and earnest, I feel is due the effectiveness of our routine daily plan. I cannot speak too warmly of their conscientious application to the needs of the system.

To those loyal friends and workers in the school system who, from the first, have been alive to the demands of the physical child, I am deeply indebted for help and encouragement.

My gratitude to the Board of Education for interest in and approval of our work can be best expressed by increased effort to merit such interest and approval.

Knowing as I do your broad recognition, as superintendent, of

the importance of a definite health program in education. I find pleasure in bringing you this report; for I realize that the concrete results and the scope of work here indicated must be sources of real gratification to you. For your sympathetic appreciation of the ideals we are striving daily to develop as a part of our contribution to the philosophy of education in this city, and for your wise and kindly counsel, I am most grateful.

THE NASAL ACCESSORY SINUSES, WITH SPECIAL REFERENCE TO THE FRONTAL SINUS.

Read before the Saratoga Springs Medical Society January 28, 1916.

By THOMAS J. GOODFELLOW, M. D.,
Saratoga Springs, N. Y.

In the realm of the rhinologist, perhaps no portion of the upper airway has attracted quite so much attention and investigation during the last decade as the nasal accessory sinuses. They have been investigated from many different aspects of medical science. Their anatomy has been studied with a good deal of care, both here and abroad, and their peculiarities as to size, position, relations, drainage, period of development, etc., are now better understood. The physiologists have learned more concerning their functions, the pathologists of their diseased conditions; the bacteriologists have done much in defining their germ offenders, while rhinologists have improved methods of diagnosis, especially in a differential way; that is, in locating the sinus at fault, and better and newer methods of treatment, and a more careful consideration of nasal discharge and pain about the nasal region, have saved lives and brought comfort and cure to those suffering with acute or chronic sinus involvement, which in a large majority of cases were hitherto branded with such meaningless diagnoses as catarrh or neuralgia.

A word to recall these sinuses to mind. There are five different groups of these cells accessory to the nasal cavities, in the visceral cranium, on either side of the mesial plane—ten groups in all. They are the sinus maxillaris, two in number, situated on either side of the nasal cavities in the superior maxillary bone, usually one large cell in each bone; the sinus frontalis,

usually two in number, one on either side of the mesial plane, and situated in the os frontale; the cellula ethmoidalis anterior; the cellula ethmoidalis posterior, each several cells varying from 3 to 11, usually 5, and located in the lateral masses of the os ethmoidale, and finally paired cells in the sphenoidal bones, posterior to the ethmoid cells, the sinus sphenoidalis. All except the maxillary sinus drain downwards; that is, they are situated in the roof, as it were, while the maxillary antra are lateral.

When do these sinuses first appear? Are they all present at birth? or to put the question clinically, may a child at birth be a subject for pan-sinusitis? Consider the development in this region. The premature mouth, or stomodaeum, is formed from an unfolding of the epiblastic layer until it meets the anterior end of the fore gut which later becomes the pharynx; from this mouth a diverticulum, "the Pouch of Rathke," is prolonged upward and meets with a similar invagination from the third ventricle of the brain at the sella turcica; they fuse and form the pituitary body; hence the two-fold nature of this gland, the glandular part and the pars nervosa. In the fourth or fifth week of interuterine life the nose appears as a knob or protuberance near the mouth. At first the nose and mouth form a single cavity, but at about the eighth week the horizontal maxillary processes appear and, growing inward, unite, forming a partition between the nasal chamber and the mouth. At the same time on each side a median fronto-nasal plate carrying an incisor tooth descends from the frontal region and fuses with the horizontal maxillary plates, thus forming the hard palate. Centres of ossification for the two halves of the frontal bone appears in the seventh week, the superior maxillary bone in the eighth week, while the sphenoid develops in two divisions, centres for the post-sphenoid division appearing in the eighth week, and that of the pre-sphenoid in the ninth week. It is from the latter than the septum nasi is formed, one centre of ossification on either side of the division. These coalesce and form the septum. Occasionally they do not and the cartilaginous septum remains double in later life, a condition which is now and then met with in doing the submucous resection of the

septum, and leads to some perplexity. The centres for the ethmoidal masses appear much later, about the eighteenth week. When do the sinuses appear? The first to appear is the sinus maxillaris, presenting itself as a shallow groove on the inner surface of the bone about the fourth month in utero, and this is the only sinus present at term. The ethmoids develop as a rule at four years, the frontal about the fifth year and the sphenoidal at the seventh year. Hence at birth only the sinus maxillaris presents for infective processes, at four years of age ethmoiditis is possible, in another year the frontal sinus is capable of being diseased, while not until the age of seven can a child be the subject of pan-sinusitis.

All these sinuses and air cells are lined by ciliated epithelium continuous with that of the nasal cavities proper. The ciliae are engaged in the evacuation of the normal secretion of the sinus mucous membrane. The wet specimens here shown will give a clear idea of the very large area of mucous membrane present in the lining of these numerous cavities.

The exact physiology of the sinuses is still somewhat in doubt. Several functions have been attributed. They have been regarded as resonating chambers necessary for the proper intonation of the voice, as serving for secretion of mucus, as assisting in directing the inspired air towards the olfactory cleft, as vestigial organs of smell, as mechanical factors in reducing the weight of the head, or, as lately thought, they assist materially in warming the inspired air. Hitherto that function was thought to have been carried out by the inferior turbinate bodies, and contrary to the former idea that the sinuses filled on inspiration, we now know they do the opposite and are filled with warmed impure air on expiration, and emptied on inspiration, lending their heat to raise the temperature of the inspired air. This fact is occasionally demonstrated in the exploratory trephining of the frontal sinus in which the button comes away without injury to the mucous membrane; then when the patient inspires the mucous membrane draws inward, while on expiration the membrane bulges forward.

As you will see from the specimens here presented, these air cavities are very capacious, and the mucous membrane lining

them is subject to all the infective and pathological processes that the nasal mucous membrane falls heir to, as acute inflammations, acute purulent conditions, chronic catarrhal inflammations (serous sinusitis or mucocele), cystic and polypoid degenerations, chronic purulent inflammations (empyema), etc. Certain tumors are found in these areas, myxomatous polypi, and osteoma of the benign type, sarcoma, endothelioma and epithelioma of the malignant type. Tuberculosis and syphilis occur, but are rare. At the present time I have attending my clinic at the Saratoga Hospital a case of hereditary syphilis involving all the sinuses. As the external nose has been largely destroyed the process in the sinuses is easily viewed.

The drainage of any of these sinuses is not the best. In the case of the maxillary antrum it is near the top; that of the sphenoidal sinus is also fairly high in the cavity and considerable accumulation of pus may occur in the sinus before drainage takes place through the normal avenue. All the openings and ducts are small and subjected to further blocking by inflammatory tissue swelling or deformities in the nasal cavities. Hence it is an easy matter for the ordinary secretions or purulent exudate to become locked up and produce their symptoms. The frontal sinus drains into the infundibulum, which passes into the hiatus semilunaris, the maxillary sinus also opens into the hiatus; the anterior ethmoidal cells drain into the middle meatus, thus pus from these sinuses will appear anteriorly and beneath the middle turbinated body. The posterior ethmoidal cells drain into the fronto-ethmoidal space, and pus from here usually drains backwards, although it may come down over the middle turbinate. The sphenoidal sinus drains posteriorly, and pus from these two latter groups will appear in the naso-pharynx. Hence, according where drainage occurs or pus appears, we can divide the sinuses into an anterior group comprising the maxillary sinus, frontal sinus and anterior ethmoidal cells, and secondly a posterior group comprising the sphenoidal sinus and the posterior ethmoidal cells, and accordingly the location of pus in the nose is a very characteristic clue to its origin. In nearly all cases the cause of sinus inflammation is bacterial, in rare instances due

to aspergillus or vermes. The diplococcus pneumoniae, the bacillus influenzae and the streptococci are the frequent offenders. At this present time the bacillus influenza is causing a good deal of sinus trouble. In early cases pus due to these aerobic bacteria is not fetid, but anaerobic bacteria of ductal origin may cause the pus coming from the antrum to be so. The bacillus coli, micrococcus catarrhalis and the infecting organism of measles and scarlet fever account for a number of cases. The tubercle bacillus and the spicochaeta pallida occasionally infect the sinuses, usually by extension.

As a rule the morbid anatomy is of a chronic inflammatory nature leading to round cell infiltration. This may be followed by cystic and polypoid degeneration, periostitis, rarifying osteitis, and rarely cares. Syphilis occasionally produces necrosis.

In sinus suppuration, and in any operative procedure to establish drainage here, we must always keep in mind the important structures in the base of the calvarium and also the proximity of the eye, especially in the ethmoid cells and the antrum. Here we have in close relation to the ethmoid and sphenoidal cells at the base of the brain, the menenges, brain, cavernous sinus, pituitary body, internal carotid artery, third, fourth, sixth nerves, the first division of the fifth and the optic nerve.

Referring now to the frontal sinus in particular, we have seen that it is not present at birth, but begins as a budding off from the ethmoid cells at variable times, never before the second year, not as a rule before the fourth and probably infrequently before the sixth. Hence the frontal eminences do not appear before this age. They are, as a rule, two in number, variable in size, even in the same individual, occasionally unilateral, the right usually the larger, smaller in females, as is also the case in the negro race. The largest frontal sinus which I have personally seen was one when the partition between the two sinuses was broken down, would accommodate easily the full length of a Spratt mastoid curette. This was exceptional, however, the case being one of acromegaly. The frontal sinuses extend upward, backward and outward over the orbit, between the two tables of the frontal bone, and are separated from each other by a bony partition, more or less central. Occasionally and espe-

cially in large sinuses, irregular trabeculae of bone present in the interior. On vertical section they appear more or less right angle triangular, having in relation the frontal lobes of the cerebrum at the hypothenuse, the orbit and nasal cavities below and the brow exterior. They, like other sinuses, are lined with ciliated epithelium and drain through a narrow frontal duct into the infundibulum, which in turn enters the hiatus semilunaris beneath the middle turbinate. The opening is small and difficult to probe, even in the wet specimen in diseased areas, especially ethmoiditis. The thinnest part of the sinus wall is at the upper and inner angle of the orbit. This sinus, like others, is subjected to acute and chronic inflammations, bacterial in origin as a rule, the B. influenza and the pneumococcus being the common invaders, although a frontal sinusitis has been associated with many other conditions, as measles, scarlet fever, cerebro-spinal meningitis, smallpox, typhoid fever, erysipelas, glanders, mumps, and gonorrhœa. One should not forget such predisposing factors as galvano-cautery, unsterile instruments, nasal douches improperly administered, unsterile plugs and sponges and foreign bodies. Most of the chronic cases are extension from acute attacks, although a chronic suppuration may be associated with malignancy as well as tuberculosis and syphilis.

In acute cases involving the frontal sinus we have as a rule fairly well-marked signs and symptoms. There is frequently the history of an infection which has predilection for the upper air way; acute frontal pain over the frontal sinuses is the rule, but not absolute. It may be marked and radiate about the orbit, toward the vertex, or upper temporal region on the same side. Frontal tenderness is common. Discharge may be present and is frequently canary yellow in color, and the pus appears beneath the middle turbinate. The nasal cavities are congested, especially about the anterior portion of the middle turbinate. There are frequently deformities, especially of septum, causing narrowing of the infundibulum. Puffiness of the upper eyelid, shadowed trans-illumination and shadowed radiogram may be found. Many acute cases, however, never show pus and the majority get better spontaneously, while a number become chronic. Death

may occur from cerebral invasion. Resolution usually takes place in from one to three weeks. The keynote to the treatment of these cases is that of secretions or pus locked up elsewhere in the system, viz., drainage, and raising the system's resistance by whatever means possible to overcome the infecting agent. Rest, moist compresses, nasal inhalations of menthylated steam, antipyretics, topical detergents about the infundibulum and suction are all therapeutic agents of value. These failing, operative procedures may be necessary—anterior middle turbinotomy, as a rule, to permit freer drainage, and if orbital or cerebral symptoms intervene then the radical frontal operation is indicated.

Chronic suppuration in the frontal sinus is probably more common than thought for. A considerable number of post-mortem cases, according to Hanke, show involvement (30% of all sinuses). While those suffering from acute frontal sinusitis seek relief from pain, the leading symptom in chronic cases is discharge. Localized symptoms are no necessary part of a chronic frontal sinusitis. A more or less chronic headache or feeling of oppression in the region of the sinus may be all the patient complains of, outside of the discharge. The discharge always appears forward, beneath the middle turbinate. It is variable, may be so slight as to be unconsciously swallowed by the patient or so great as to almost require the constant use of a handkerchief. Associated with it we may have various signs and symptoms and accompanying conditions, referable to neighboring parts, such as nasal obstruction, hypertrophic deformities, polypi, parosmia, anosmia, cacosmia (latter very symptomatic of sinus suppuration), general inflamed condition of the nose and throat, certain eye symptoms, less frequent however with the frontal sinus than the ethmoidal cells, e. g., orbital cellulitis, retro-bulbar neuritis and retinal changes due to pressure on the optic nerve, oedema of lids, central scotoma and asthenopia. If the cerebral area is involved then we have such symptoms as intense headache, and other usual symptoms of irritated meninges. From the discharge passing out over the upper lip we may get certain skin lesions about the nose, as erythema, eczema, facial erysipelas, etc.

The diagnosis of chronic frontal sinusitis is made by observing

the discharge, usually yellowish and fairly thick, coming from the region of the middle meatus, associated with more or less frontal tenderness and by a process of exclusion. If pus is seen high up anteriorly, recurring rapidly after cleaning, if it flows more freely when the middle turbinate is pressed toward the septum nasi, if there be shadowed trans-illumination and radiogram of the frontal sinus, then it will be found to be the offender as a rule. If the antrum be washed out, absence of pus excludes it; if it be present, then if its reappearance in course of thirty minutes after washing, the result would indicate frontal sinus involvement, pus coming from the uncleaned sinus. For absolute certainty, an exploratory trephining of the frontal sinus may be done. Treatment of chronic frontal sinusitis is surgical—either intra-nasal or extra-nasal. The pendulum is now swinging to the more conservative intra-nasal treatment, and from the hitherto more frequently performed external radical operation. Better drainage secured by an anterior middle turbinotomy, catherization of the sinus via the infundibulum (which can be done in 50% of cases), with daily irrigations, coupled with efficient recuperative medication and autogenous vaccines, will clear up a large per cent of cases. The puncture of the floor is a dangerous procedure. The extra-nasal operation is the radical frontal sinus operation of Killian, Kuhmt, or Ogston-Luc. The former is preferred, as it deals with the ethmoidal cells at the same time, which are not investigated in the other two methods. A radiogram should always be taken previously to indicate the size and extent of the sinus. The middle turbinate should be previously removed. The sinus is entered over the brow and cleaned; a supra-orbital ridge or bridge is left with its periostium. An opening is then made below the ridge, arc, through the nasal bone into the anterior ethmoidal cells and they are cleaned; then the whole floor of the sinus is removed and the area is cleaned, packed and the wound closed. Packing is removed in forty-eight to seventy-two hours by the nose, and the area is irrigated daily thereafter as a rule. Patients may be permanently cured in this way sometimes within two weeks. Killian gives as indications for radical operation the following: (1) failure of other operations; (2) presence of fistula or abscess, or indi-

cations of necrosis; (3) intracranial complications; (4) chronic frontal sinusitis with pain, fever and fetid discharge; (5) persistent headache over the sinus; (6) when the discharge from the sinus remains foul in spite of repeated irrigations; (7) when recurrent groups of polypi are produced by suppuration in the frontal or ethmoidal cells; (8) when a simple purulent discharge is not relieved by careful intra-nasal treatment and patient requires permanent relief.

In conclusion, the careful study of acute and chronic inflammation in these cavities is necessary for the following reasons: (1) It may reveal the true source of many cases of nasal and post-nasal catarrh; (2) distant and sometimes obscure symptoms may be traced to sinus suppuration; (3) frequently it is due to nasal affections otherwise unrecognized; (4) more sinuses than one may be diseased; (5) a complete diagnosis of all sources of pus in the nose is important; (6) a certain number of cases tend to become fatal; (7) treatment yields very satisfactory results and is sometimes an easy matter, while in certain cases its management requires special study and skill and the treatment is not devoid of danger.

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THE OCULAR CAUSES OF HEADACHE.

Read before the Medical Society of the County of Albany, March 23, 1916.

By ARTHUR J. BEDELL, M. D.,

Clinical Professor of Ophthalmology and Otology, Albany Medical College; Attending Ophthalmologist and Otologist, Albany Hospital.

Headaches are common and, although often from ocular strain, are frequently unrecognized as such by patient and physician. To help in this symposium to-night, I ask your indulgence while together we go over the essential points of etiology.

The cadaver shows the extra-ocular muscles, four recti and two obliques, the accessory muscles of accommodation, the

orbicularis palpebrarum, the occipitofrontalis and corrugator superciliae. Recall the action of each and you see immediately that any abnormality must cause some nerve irritation, usually pain. The stereoscopic slides show the interior of the eye, the ciliary muscle and ciliary processes. Contraction of the ciliary muscle causes a narrowing of diameter allowing the lens to bulge increasing its antero-posterior dimension and the eye to be focused for close things. Relaxation of the ciliary muscle causes the lens to become thinner and the eye focused for distance.

Structurally we consider the condition known as farsightedness, hyperopia; the eyeball is too short, the lens must become more convex to focus objects clearly on the retina and this is only possible by increasing the ciliary muscle contraction.

In myopia, or nearsightedness, the eyeball is too long, so distant objects are accordingly indistinct but the near ones clear and the ciliary muscle relaxed.

In astigmatism the rays of light are not brought to one focus, and the ciliary muscle must contract irregularly. Binocular muscle balance must always be maintained or we will have strabismus or other muscle defects.

Associated with hyperopia are an excessive convergence and increased action of the accessory muscle of accommodation, the occipito-frontalis; the result is pain in the forehead or back of the head. In astigmatism the same cause prevails, but in myopia there is no excess of convergence, so that in actual experience we have few ocular headaches in simple myopes.

With this foundation we may state that the classical case of eye headache is the one coming on in the late afternoon and persisting until the eyes are rested either by sleep or by closing them. The reason for this pain at this time is the fatigue of accommodation resulting in muscle cramp; naturally relief may only be secured by proper optical correction.

The most common eye headache is frontal and the next occipital. Both are the result of overaction of the occipito-frontalis muscle and both may be present in the same patient. Temporal, parietal and vertex headaches are less frequently cited, as is also the pain at the nape of the neck, although the latter is absolutely characteristic of an eye lesion, usually extra-ocular muscle im-

balance. This pain, which may extend to the shoulder blades and to the ears, is much more often due to eye strain than any of the other frequently quoted causes. The feeling of a constricting band about the forehead, of a drawing sensation, especially toward the inner corner of each orbit or a dizziness with sense of confusion in a crowd, are not unusual complaints depending upon the eyes as cause. An acute, severe, unilateral headache, preceded by a dancing, scintillating light with blurring of objects and followed by nausea with vomiting, true migraine, is also to be considered as ocular at times.

Hereafter, when a patient comes complaining of headache, ask him to put his hand on the most painful part, for you will often find such rough localization to be of much assistance. Having determined the site of pain, the next point is the time of the discomfort. Naturally there must be a considerable error in the average patient's statement, but you will note that eye headaches may be at any time of day from early morning to late at night, after close work, after distant gazing, after exposure to sunshine and glare, after a train, trolley car or automobile ride, after theatre and movie picture shows.

Let us consider the morning headache which many otherwise competent observers claim is not due to eyes and yet we often find that proper ocular correction succeeds in bringing about a cure. Do not mistake the typical nasal sinus headache, which disappears after the patient has been up a few hours, for the ocular headache. In sinus involvement, there is evidence of discharge from nose and local sinus tenderness as well as loss of clearness on sinus illumination. The eye headache often follows prolonged use the preceding evening, although that is not necessary, for it may even follow a restful sleep. The afternoon and evening headache is explained on a pure muscle basis, as is also the pain after close work. Bright light causes a contraction of pupils, orbicularis palpebrarum and occipito-frontalis, giving the common browache. Riding in any vehicle demands constant readjustment of focus, both ciliary and extra-ocular muscles, resulting in fatigue. The same reason obtains for the frequent headache in patients with refractive errors who do not

wear their glasses at the theatre. It is not uncommon to have severe headache with a low refractive error.

The duration and frequency of headache attacks afford a prolific field of observation and unfortunately wrong deductions are common. Some patients have daily headache which passes away only after sleep, others have them once a week, some once in four weeks, still others at irregular intervals; these latter types are often confusing. To prove to the patient that headache is ocular is many times difficult. To wear glasses is at least an annoyance and you will be surprised to find the number of the fair sex who will continue to endure pain rather than wear glasses. In this connection, remember that a patient may have many complaints based on the real basis of several anatomic faults, and the correction of one may be sufficient to restore balance with cure of headache. This is a very important consideration, for in these days, when glasses are ordered from plain lenses to high compounds, cause and effect must be correlated; otherwise too much credit may be given to a single treatment. Do not neglect the Sunday and Monday headache, often the result of overuse. As an example, a patient has an uncorrected refractive error; he holds his ciliary muscle under tension all the week; on Sunday his eyes are used little, his muscle relaxes. Monday he returns to his desk; an extra effort of accommodation is demanded and headache results.

Doubtless you have all had patients who casually speak of their headache, considering it a necessary evil, and who think that because father, mother or some one in the family has always had such headaches they must submit to the inevitable, use drugs or fold their hands in resignation. Fortunately such reasoning is fallacious and often it is proven that both sufferer and parent have eyes of similar kind producing like pain. Accordingly, many who have chronic headache may be cured by proper eye attention.

Consider headache in relation to age and you are immediately impressed by the fact that many of your patients who have always complained of headache lose them when between forty and fifty years of age. All sorts of causes are given; if it be a woman her condition is considered the cause, but if that be so

why do men lose the same type headache at the same time? Simply and solely because the ciliary muscle loses its power of contraction and thus its ability to cause pain. Hence the reason for many reported patent drug cures and the faith some patients have in the doctor who cared for them when the relief was obtained. When a youngster with a refractive error starts school, a common complaint is headache. Eyes in need of help may also show reddened eyelids, poor vision or gastric disturbances. Never forget that very poor vision may cause no headache. Old age forms another group because of the frequent complaint of dizzy headache. This headache occurring in an arterio-sclerotic patient is not the result of the supertension, but of a refractive error which is abundantly proved by personal observation. From these few suggestions it should be evident that the age factor must always be considered in the correct interpretation of any headache. A group of patients will not complain of frank headache but will report insomnia. All cases of insomnia need to be carefully refracted.

So far we have considered headache the result of refractive or muscle eye lesions presenting no ocular inflammation to suggest the local cause. It is well to bear in mind that perfect distance and near vision does not exclude the eye as the cause of a given headache. Unless the ciliary muscle is paralyzed in testing, you are unable to measure the antero-posterior diameter of the eyeball which is refraction base. Also recall that the two eyes must look at the same object at the same time or there will be an extra-ocular muscle strain with headache.

When the refractive error of the eyes is unequal, on attempt to focus there is an irregular muscle effort, a different degree of stimulation to ciliary and extra-ocular muscles and the object looked at is of unequal size. This different muscle action frequently causes headache. If you recall some of your one-eyed patients, you will be struck by the comparative infrequency of ocular headache.

A second group considers the inflammatory eye lesions. It seems hardly necessary to dilate on this obvious cause of headache, but for completeness we ask you to consider the frontal headache common to one with an acute or chronic conjunctivitis

exposed to bright light, easily avoided by the use of proper protecting lenses.

Iritis with the attendant ciliary congestion, iris discoloration, contracted pupil and poor vision is often the cause of an excruciating diffuse headache.

Glaucoma with nausea, vomiting, general prostration and intense headache is unfortunately too often neglected, although the dilated pupil, congested eyeball and poor vision is enough on which to base a proper diagnosis.

Chronic glaucoma with no inflammatory symptoms is an ever-increasing cause of chronic headache.

Keratitis of various types may cause severe headache often wrongly diagnosed in the early stage.

The conditions explained by Dr. Archambault and Dr. Rooney are often combined with refractive errors or local eye disease in such a way that only the closest co-operations of internist and ophthalmic surgeon enables the patient to get proper care; for example, chronic nephritis and cerebral tumors.

To summarize:

1. Ocular headache may be the result of a refractive or muscle error or local inflammations.

2. Ocular headache, although most common in the afternoon, may be at any time of day or night.

3. The headache of middle life demands careful ocular examination.

4. Ocular headache may be present even with perfect distance and near vision.

5. In no case is the eye excluded until a cycloplegic has been used.

6. Occipital pain and nape of the neck discomfort extending even to the shoulders is often of ocular origin.

7. When proper correcting lenses are ordered, they must be worn as directed and must be accurately placed before the patient's eye.

Editorial

All this time the surgeon was cutting off his trousers, and then, to be sure, a terrible spectacle presented itself. The foot and leg, blue and shrunk, were connected with the thigh by a band of muscle about two inches wide, and an inch thick; that fined away to a bunch of white tendons or sinews at the knee, which again swelled out as they melted into the muscles of the calf of the leg; but as for the knee bone, it was smashed to pieces, leaving white spikes protruding from the shattered limb above, as well as from the shank beneath. The doctor gave the poor fellow a large dose of laudanum in a glass of brandy, and then proceeded to amputate the limb, high up on the thigh. Bang stood the knife part of it very steadily, but the instant the saw rasped against the shattered bone he shuddered.

"I am going, Cringle—can't stand that—sick as a dog"—and he was so faint that I had to relieve him in supporting the poor fellow. Wagtail had also to go on deck, but Paul Gelid remained firm as a rock. The limb was cut off, the arteries taken up very cleverly, and the surgeon was in the act of slacking the tourniquet a little, when the thread that fastened the largest or femoral artery suddenly gave way—a gush like the jet from the fire-engine took place. The poor fellow had just time to cry out, "Take that cold hand off my heart!" when his chest collapsed, his jaw fell, and in an instant his pulse stopped.

Tom Cringle's Log. MICHAEL SCOTT.

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The Teaching of Anatomy. The pursuit of anatomy is the romance of medicine. There is tradition that the first anatomist, Herophilus the Chalcedonian, obtained the bodies of executed criminals for dissection, and that life was not always extinct. The pioneer of the modern era, Vesalius, carried on his investigations against hostility of a superstitious age, and even abandoned his researches, though his pupil profited by his retirement. Knowledge of anatomy, even at a very recent date, was attained under difficulties, and students of a generation gone might narrate some thrilling midnight forays not altogether free

from risk. Dr. Alden March, in one of the historical addresses of his later years, told of his drives into Massachusetts, whence he returned with contraband beneath his buggy seat.

The original "Albany Medical School" was really a school of anatomy. In the modest circular of 1833 was given a list of six "instructors":

> Edwin James, M. D., On Chymistry and Natural History;
> Alden March, M. D., On Anatomy, Physiology and Operative Surgery;
> Henry Green, M. D., On Obstetrics and Diseases of Women and Children;
> William Tully, M. D., On Materia Medica, Pharmacy and Therapeutics;
> Theodore Woodward, M. D., On the Principles and Practice of Surgery;
> John James, M. D., On Theory and Practice of Medicine.

Fifty-one students were enrolled, and there was a page of "notices," stating the "terms" upon which the candidate was entitled to the degree of Doctor of Medicine, to be conferred by the "Vermont Academy of Medicine, in Castleton."

The practical work of this school was dissection, which is said to have been carried on in a stable on Eagle street, still in existence and near the jail building which was later to become the Albany Hospital. When the Albany Medical College was established in 1839, Dr. James H. Armsby began his long and active career as Professor of Anatomy. He set aside an apartment in the College building, and the result of his unremitting industry and energy is the anatomical museum. As the College grew and the dissecting room became the center of practical work, economy in the use of material was necessary, and for years the custom prevailed of assigning the five parts of each "subject" to an equal number of students. They were directed or assisted by a demonstrator. A definite amount of work was required and examinations were held. Didactic lectures, illustrated upon the cadaver and by charts, were given until a recent date. The late Professor Lewis Balch, a fluent orator and an accomplished draughtsman, vivified these lectures by crayon sketches upon the blackboard, and his conduct of the department was characterized by rare brilliance. He was succeeded by Professors Samuel R. Morrow and Joseph D. Craig, in turn, who held the admiration

of their classes by the exactness of their knowledge, and accuracy of demonstration.

But times change and men change with them, and the old order yields to the new. The inevitable momentum of progress has accomplished two things for anatomy and for general medicine—it has placed each upon a scientific basis, and it has made that basis common to both. The teaching of anatomy, as the fundamental and primary department of the medical course, may determine the attitude of the student to all of the work which is to follow, for the technique, principles of observation and methods of thought acquired during the first few months are not of restricted application to this science alone. The laboratory system of teaching has done more than anything else to bring biology, zoology and botany to the front in progress; and to anatomy belongs the credit of the first adoption of its principles. The influence of von Baer, Virchow and Waldeyer has been felt, and felt strongly, because they were masters of anatomy and held fast to the value of the laboratory method.

By the concentration method of instruction now employed in the Albany Medical College, the teaching of anatomy is contained in the first term of the year. The succeeding term is left free to the teaching staff for the prosecution of research work. Such arrangement permits the development of the highest type of teacher—one who takes not merely a passive interest in his science, but contributes to its enlargement. Anatomy is not simply a descriptive science, nor is its purpose and end the acquisition of knowledge of the architecture of the cadaver. The human body is not the limit of its inquiry, much less the dead body; its eye is upon the structure of living organizations and functionating cells. It now comprises descriptive, or systematic, gross anatomy; physiological, topographical, regional and surgical anatomy; comparative anatomy; histology, or general anatomy, including cytology, comparative histology, embryology; and, there has been added in recent years, general, experimental morphology. The broad scope of the science prohibits, save in the instance of a few men of training, a thorough mastery in a life-time. Students are not expected to acquire in a year and a half of college work more than a superficial knowledge of it.

But in that short time they may learn the methods of the science, appreciate the manner in which it is growing, and understand its relation and significance to the broader field of general medicine.

The general direction of progress is away from the formal, rhetorical lecture. The student wants methods, not results; he wants to see and feel for himself, and to draw his own conclusions—to get his information first-handed: he wants to learn how to observe and how to think, not what to learn and what to think. Each student receives, on the first day of the course in gross anatomy, a box of bones of the skeleton, and is assigned to one-half of a properly embalmed cadaver. Dissection begins with the first hour of the course. All formality is omitted. After the wrappings are removed the student scrutinizes its general shape, size, position, color and surface contour, making mental note of the salient features, irregularities, depressions, grooves and the like. He next palpates the entire region, prodding his fingers into the recesses and hollows and noting the differences in resistance, corroborating his discoveries by reference to the skeleton. This plan of physical examination and observation remains with him during his medical career. He observes the skin, its varied character in different areas and the peculiarities of its appendages. He then revises his investigations with the assistance of a hand magnifier, and finally is shown dissecting-room specimens of skin under the microscope, and, in addition, sectioned and stained specimens. After removal of the skin the same methods of observation are applied to the subcutaneous tissue with its arteries, veins, nerves and lymphatics. As a result he acquires, through his own efforts, a comprehensive and clear grasp of the nature and intricate structure of the tissues under investigation. He is encouraged to take notes, make rough sketches and measurements, and to tabulate. The use of modelling clay is pointed out, that he may train himself in the reproduction of anatomical parts. Whenever extraordinary tissues are encountered the histological preparateur is placed in use, and they are properly stained and studied under the high powers of the microscope. Visceral anatomy, malformations and developmental defects are analyzed with the same care.

Several important changes have been made necessary in order to arrange accommodations in the College building for the three subdivisions of gross anatomy, histology and embryology. The dissecting room is now on the second floor in the room formerly used as the museum. This large room, with its high ceiling, ample air space and side and overhead illumination, is a very satisfactory laboratory for this kind of work. The room on the second floor of the north wing, once a chemical laboratory, has been painted and renovated, electric lights have been installed, additional windows made, and it becomes a serviceable histological and embryological laboratory. Individual students' desks, to the number of thirty, have been placed in this room.

Since the teaching is concentrated into the first term of the year and occupies all the time of the teaching staff, research work in anatomy has just begun, but the manner of the beginning speaks for an excellent showing in advance along medical lines. The introduction to surgery and to medicine will be made during the first term of the second year by a series of courses on regional, topographical and surgical anatomy. The elaboration of the details of these courses will be made upon the general plan of instruction in anatomy.

Scientific Review

Progress in Pathology and Bacteriology.

PNEUMONIA.

The presence of pneumococci in the mouths of all healthy individuals has been known for many years and it was believed that these organisms under certain conditions of lowered vitality or diminished resistance induced pneumonia. Recent investigations point to the probability of pneumonia being a contagious disease and that the pneumococci found normally in the mouth rarely are the cause of pneumonia in the same person. There are different strains of the pneumococcus, and following the suggestion of Neufeld, these organisms are divided into four groups or types by immunologic tests.[1] [2]Types I and II have been isolated most frequently in pneumonia and for the

treatment of patients infected with Type I organisms there has been developed an immune serum obtained by inoculating horses with this strain of pneumococcus isolated in pure culture. Although the early reports have been favorable, several years must elapse before sufficient data will be available to determine the efficacy of the serum treatment.

SCARLET FEVER.

The frequent presence of streptococci in the throats of scarlet fever cases led to the opinion that this organism might possibly be the etiological agent. In milk-borne epidemics of scarlet fever, the milk on examination has been shown to contain large numbers of virulent streptococci. Dick and Henry,[3] by means of anaerobic cultures, isolated hemolytic streptococci from the blood, spleen, lymph nodes, and urine of scarlet fever patients. Occasionally, diphtheroid organisms were also found.

EPIDEMIC POLIOMYELITIS

Flexner[4] announces the etiology of poliomyelitis to consist of minute globular bodies present in the nasal and buccal secretions. The organism is transmitted from person to person and not by insects, although M. J. Rosenow[5] showed that the virus could be carried for a time by the stable fly. The organism has been obtained in pure culture by Flexner and Noguchi. The lesions of poliomyelitis can be reproduced in monkeys inoculated with this organism.

TYPHUS FEVER.

The publication by Plotz[6] of the discovery of the microorganism causing Typhus exanthematicus has created wide interest. Plotz carried on his investigations at Mt. Sinai Hospital, working on a number of patients entering New York harbor. In eleven out of twelve cases he was able to isolate, by means of anaerobic blood cultures, a small Gram-positive pleomorphic bacillus which is not acid-fast and possesses no capsule or polar bodies. The organism when inoculated into guinea pigs induces a typical febrile reaction, and in six out of eight cases a complement-deviation reaction has been obtained.

STREPTOCOCCUS INFECTIONS.

The experience of the past few years shows that streptococci of great virulence may produce infections of the upper respiratory tract and a variety of complications ensue. The infection has appeared in epidemic form and in many instances these epidemics were traced to the milk supply which was contaminated either by a cow with diseased udders or by a milker ill with sore throat.[7]

Theobald Smith[8] noted the presence of two varieties of pathogenic streptococci in the udders of cows, a human and a bovine type. These may or may not occur with mastitis and the fact that the human type of streptococcus may proliferate actively in the milk reservoirs of the cow without inducing inflammation is noteworthy. There is no evidence, however, that the bovine type produces tonsillitis in man. Milk may also be contaminated by the faeces of the animal or by infected cows licking the udders.[9]

Rosenow has contributed extremely interesting studies on the relationship of streptococci to various diseased conditions. By means of a special technique, he has been able to isolate pathogenic streptococci from the blood in cases of rheumatic fever, from the glands draining joints in arthritis deformans, from gastric and duodenal ulcers, appendices and the gall-bladder in inflammatory conditions, and also from the centres of gall stones. These streptococci were frequently isolated in pure culture, but occasionally were accompanied by staphylococci, colon and diphtheroid bacilli.

Rosenow also made the interesting observation that streptococci when isolated and inoculated into animals appeared to attack the organ or tissue similar to that from which they were obtained. Thus the organisms isolated from the gall-bladder induced cholecystitis[11] in animals, and when obtained from the joints cause arthritis when introduced into the blood. These experiments lead to the new conception that certain bacteria may have a selective affinity for a particular organ or tissue. The streptococcus isolated from a case of cholecystitis produces cholecystitis in a rabbit when inoculated intravenously. Rosenow infers that these observations explain the good results reported

as following cholecystectomy in myocarditis, arthritis and other conditions.

An investigation of appendices[12] removed at operation revealed the streptococcus in most cases. The results indicate that appendicitis is commonly of hematogenous origin and secondary to a distant focus of infection. Attention is called to the mouth where tonsils and teeth frequently harbor pathogenic organisms. The occurrence of appendicitis in epidemic form when throat infections are prevalent is also noted. In the study of gastric ulcer, Rosenow[13] was able to isolate streptococci in twenty-three of twenty-four cases. In eleven cases where the adjacent lymph nodes were cultured, six yielded streptococci. In two of these instances the Bacillus welchii was also found.

DIPHTHERIA.

A new clinical test has been devised, by means of which individuals susceptible to diphtheria may be detected. Experience shows that only those individuals contract diphtheria who have no antitoxin in the blood or tissues. The test was devised by Schick and is carried out in the following manner. An intracutaneous injection of 1/50 M. L. D. of toxin in 0.2 cubic centimeters of saline solution is made on the extensor surface of the forearm. If antitoxin is absent, as it would be in the case of a susceptible individual, there appears at the site of injection in twenty-four to forty-eight hours a circular area of reddening usually one or two centimeters in diameter. It persists for seven to ten days and leaves a brownish pigmentation. Patients who are immune develop no reaction. The toxin must be fresh and the dosage carefully estimated. Park and Zingher[15] find the test of great practical value, since immune individuals need not be isolated or given antitoxin in the presence of epidemics. According to Moody's[16] results, the most susceptible age is one to five years. In severe cases early and large doses intravenously are advised since antitoxin so used is ten times as effective as when used by the ordinary method.

The application of the method in a modified form to guinea pig inoculation is also in use at the present time to differentiate the virulent from the non-virulent diphtheria bacilli. This pro-

cedure should result in the release of many so-called diphtheria carriers, in whom the organisms, morphologically the B. diphtheriae, are non-pathogenic.

VACCINE VIRUS.

Despite the great care used in its preparation, vaccine virus is frequently contaminated with micro-organisms and a method for obtaining the virus bacteria-free would be of great value. This has been accomplished by Noguchi[17] who exposes the virus to ether and then inoculates the testes of animals. The virus grows readily in the testicle of the rabbit, sheep and calf, reaching its height on the fifth day and begins to decline on the eighth day. It is estimated that forty rabbits or four calves will yield one thousand cubic centimeters of vaccine. Prepared in this manner the elimination of bacteria should result in less criticism of the method of vaccination and fewer disagreeable medico-legal experiences.

HODGKIN'S DISEASE.

Hodgkin's disease has always been a condition difficult to classify either clinically or pathologically. This is largely due to a lack of knowledge of the etiology and natural history of the disease and also because of the varying histological picture. In certain instances the disease acts very much like an infection; in others, very much like a neoplasm, and in a few cases appears to bear some relation to leukaemia. Bunting[18] and Yates reported the finding of diphtheroid bacilli in the glands of a number of cases of Hodgkin's disease and ascribed to these organisms an etiological rôle. Cultures of these bacilli inoculated into lymph nodes of several monkeys produced changes which were thought to resemble those found in Hodgkin's disease. Patients treated with vaccines made of these diphtheroid bacilli and at the same time subjected to X-Ray therapy showed clinical improvement.

The wide prevalence of diphtheroid bacilli and the frequency with which they can be isolated from a variety of pathological tissues should make one extremely critical regarding their disease producing qualities. Diphtheroid organisms may be isolated from the mouth, vagina, urethra and skin in normal individuals

and recent investigation shows them to be present in the blood of scarlet fever cases, leprosy, appendicitis and ulcers due to a variety of causes. The clinical progress of these cases fluctuates greatly and marked retrogression in size of the lymph nodes has been known to occur after arsenic or X-Ray therapy and even spontaneously.

TUMOR INVESTIGATION.

Not since the discovery that malignant neoplasms could be transplanted from mouse to mouse and rat to rat has any work aroused such lively interest as the discovery by Rous and Murphy[19] of a chicken sarcoma which yielded a filterable virus. The tumor was originally found in a Plymouth Rock hen, and after a series of transplantations yielded successful "takes" in a large percentage of experiments. It was found that the tumor could be ground into a powder, and after remaining in this dried, pulverized condition for many months would, on subcutaneous inoculation of a hen of the same species, reproduce the tumor. The filtrate obtained by passing an emulsion of the tumor through a Berkefeld filter, which held back the smallest visible organism, also reproduced the tumor and furthermore it was noted that the virus of this sarcoma could be subjected to the action of such agents as alcohol and glycerine and still remain viable.

Continuing studies on this tumor, Murphy[20] found that it grew readily when transplanted into chick embryos and that a distinct antagonism existed between the growth of lymphoid tissue and the tumor. The inoculated sarcoma grew steadily until the spleen and bone marrow appeared, after which the tumor retrogressed. Splenic tissue inoculated with the tumor inhibited the growth of the tumor and caused the graft to disappear. These experiments and earlier observations on the lymphocytic infiltration about tumor transplants in non-susceptible animals point to the lymphocyte as bearing a very important rôle in the immunity process. Murphy and Morton[21] find that in animals resistant to cancer a lymphocytosis occurs directly after inoculation. If the lymphocytes are destroyed by means of repeated doses of X-rays the resistant state is abolished and a normally immune animal becomes susceptible to the tumor inoculation.

The occurrence of gastric carcinoma in rats in certain parts of

Denmark was investigated by Fibiger,[22] who believes the growth to be caused by a new species of Spiroptera, or small round worm found in cockroaches. The tumor was found in the stomachs of rats caught in sugar warehouses. In his experimental work, Fibiger fed ninety-one rats with infected cockroaches, and of these twelve developed carcinoma. The tumors appeared in three or four months, and in one case metastases were noted.

The work of Tyzzer[23] on the influence of trauma on the incidence of tumor metastases is also of great interest. Tyzzer observed in his experiments with a cancer of the Japanese waltzing mouse that when the tumor implant was massaged after a short period of growth, the metastases appeared much sooner and in larger numbers than in the tumor which was not massaged. Jones and Rous[24] also noted that the injured peritoneum is much more suitable for the growth and lodgment of mouse tumor and that connective tissue reacting to an injury grows more profusely in vitro than normal tissue. In the case of the Rous chicken sarcoma, the introduction of diatomaceous earth with the tumor or filtrate resulted in a greater percentage of "takes" than when the tumor alone was inoculated.

Attention is called to the recent investigations on heredity in cancer. The experiments of Tyzzer and of Maud Slye are of particular interest. Tyzzer[25] noted in earlier experiments that a tumor which grew very readily in Japanese waltzing mice failed to grow in the common mouse. When the waltzing mouse and the common white mouse were bred together, the hybrids of the first generation proved to be more susceptible than the waltzing mice. The offspring of such mice, however, proved entirely insusceptible to tumor inoculation.

Maud Slye[26] found that the incidence of spontaneous tumors is influenced by heredity and that the power to resist cancer is a dominant characteristic which could be bred in or out of different strains of mice. Tumors appeared as any other characteristic would and followed the Mendelian law.

This brief review will serve to indicate that substantial progress has been made in the field of pathology and bacteriology. The new technical procedures of Noguchi, Rosenow, Smith and

others have already revealed the cause of many obscure conditions and their continued application will undoubtedly uncover others. That pneumonia is a contagious disease is a conception in accord with the observations of Strong and Teague on the pneumonic form of plague which was so prevalent in Manchuria a few years ago.

Of greater importance are the results of the experimental investigation of tumors. The fact that nematode worms are frequently found associated with neoplasms such as the gastric carcinoma of rats and tumors of the bladder and rectum in cases of bilharzia would appear to point to the parasitic origin of certain tumors. The Rous chicken sarcoma, apparently due to a filterable virus or an enzyme, is perhaps the first of a new group of malignant tumors. Chronic irritation, illustrated by the X-rays and the kangri pot of the natives of Kashmir, also induces another type of malignant growth. All these facts would seem to demonstrate that it is no longer possible to regard the various forms of tumors as having a common etiology and that we may be forced to assign to different groups of tumors a different cause. The old idea that cancer is not hereditary is no longer tenable for extensive experiments on mice would seem to prove quite the contrary, unless the same laws of heredity in the case of mice will not apply to man.

ELLIS KELLERT.

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Public Health

Edited by Arthur Sautter, M. D.

DEPARTMENT OF PUBLIC SAFETY, BUREAU OF HEALTH, ALBANY, N. Y.
ABSTRACT OF VITAL STATISTICS, MARCH, 1916.
COMPILED BY WILLIAM F. FULLGRAFF, REGISTRAR.

Deaths.

Consumption	35
Typhoid fever	0
Scarlet fever	0
Measles	8
Whooping cough	2
Diphtheria and croup	2
Grippe	3
Diarrheal diseases	4
Apoplexy	15
Pneumonia	16
Broncho-pneumonia	7
Bright's disease	8
Cancer	9
Accidents and violence	15
Deaths under one year	16
Deaths over seventy years	34
Death rate	22.04
Death rate less non-residents	18.30

Deaths in Institutions.	Non-Resident.	Resident.
Albany penitentiary	1	0
Sacred Heart Convent	0	1
Old Ladies' Home	0	1
Home for the Aged	0	1
Public places	4	3
Hospital for Incurables	1	3
Federation of Labor Camp	1	0
St. Peter's Hospital	5	4
Maternity Hospital	1	2
Albany Hospital	10	9
Albany Hospital Camp	1	8
Homeopathic Hospital	3	9
Albany County Hospital	3	5
Child's Hospital	0	1
St. Margaret's House	3	0
	33	47

Births	193
Still births	7

BUREAU OF COMMUNICABLE DISEASE.

Cases Reported.

Typhoid fever	7
Scarlet fever	20
Diphtheria and croup	9
Chickenpox	24
Measles	475
Whooping-cough	36
Tuberculosis	41
Mumps	101
Septic sore throat	18
Cerebrospinal meningitis	1
Total	732

Number of days quarantine for scarlet fever:
Longest..... 37 Shortest..... 30 Average..... 32 5/12
Number of days quarantine for diphtheria:
Longest..... 45 Shortest..... 5 Average..... 22 1/8
Fumigations:
Houses..... 285 Rooms..... 1045
Milk bottles disinfected..... 984

Communicable Disease in Relation to Schools.

	Reported D.	S. F.	M.
Public School No. 1	..	..	8
Public School No. 2	..	..	3
Public School No. 3	..	..	2
Public School No. 4	..	..	22
Public School No. 5	..	1	1
Public School No. 6	..	..	3
Public School No. 7	..	..	1
Public School No. 8	..	2	3
Public School No. 9	..	..	9
Public School No. 10	..	..	4
Public School No. 12	..	1	5
Public School No. 14	..	1	4
Public School No. 15	..	1	11
Public School No. 16	..	2	4
Public School No. 17	..	1	9
Public School No. 18	1	..	2
Public School No. 21	..	..	35
Public School No. 24	..	1	22
Miss Quinn's School	..	..	1
High School	..	..	1

N. Y. S. Normal School	..	..	1
Albany Boys' Academy	..	..	9
Albany Female Academy	2	..	1
St. Agnes School	..	..	1
Holy Cross School	..	..	1
St. Joseph's School	..	..	10
Lady Help of Christians	..	1	..
St. Patrick's Institute	..	..	9
Cathedral School	1	..	12
Lady of Angels School	..	..	1
St. Ann's School	..	..	2
St. Mary's School	..	..	3
St. Casimir's School	..	..	8

TUBERCULOSIS.

Living cases on record March 1, 1916		483
Cases reported:		
By card	30	
Dead cases by certificate	11	
		41
		524
Dead cases previously reported	23	
Dead cases not previously reported	11	
		34
Living cases on record April 1, 1916		490
Total tuberculosis death certificates filed during March, 1916		34
Non-resident deaths:		
Albany Hospital	1	
Albany Hospital Camp	1	
C. F. L. Pavilion	1	
Albany County Penitentiary	1	
Homeopathic Hospital	1	
St. Margaret's House	1	
Resident deaths		28

Report of Visiting Tuberculosis Nurse.

Old cases	0
New cases	31
Returned from hospitals	8
Total	39

Disposition of cases:	
Died	8
Sent to hospitals	8
To general tuberculosis nurse	21
Remaining under treatment	2
	39
Visits made (old cases)	225
Visits, made, new patients	44
Calls at B. of H. office	26

BENDER LABORATORY REPORT.

Diphtheria.

Initial positive	18
Initial negative	269
Release positive	25
Release negative	87
Suspicious	4
Total	403

Test of Sputum for Tuberculosis.

Positive	14
Negative	48
	62

Widals.

Positive	7
Negative	16
Suspicious	7
Unsatisfactory	1
	31
Wassermann tests	102
Milk analyses	26
Pathological meat examinations	2

BUREAU OF NUISANCES.

Complaints made	58
Privy vaults	2
Closets	7
Plumbing	8
Drain	2
Water	9

Gas	1
Filthy yard	2
Filthy alley	1
Filthy premises	1
Chicken	2
Goose	1
Dog	5
Garbage	6
Soft coal	1
Smoke	1
Odor	2
Noise	1
Stable	1
Unclassified	5
Inspections	63
Plumbing	50
Sanitary	13
Reinspections	54
Plumbing	32
Sanitary	22

Hearings.

Cases heard before health officer	5
Nature of cases:	
Hopper closet	1
Plumbing	3
Garbage	1
Disposition of cases:	
Abated	5

Bureau of Plumbing, Drainage and Ventilation.

Inspections	211
Old houses	78
New houses	133
Iron drains	39
Connection street sewers	7
Tile drains	7
Urinals	37
Cesspools	68
Wash basins	126
Sinks	74
Bath tubs	55
Washtrays	48
Butler's sinks	1
Tank closets	172

Permits issued	71
Plumbing	53
Building	18
Plans submitted	36
Old buildings	23
New buildings	15
Houses tested	41
Peppermint	5
Water tests	36
Houses examined	33
Re-examined	79
Valid	17
Without cause	16
Violations	3

Bureau of Dead Animals.

Animals removed from first precinct	24
Animals removed from second precinct	27
Animals removed from third precinct	17
Animals removed from fourth precinct	11
Animals removed from fifth precinct	19
Kennel cats removed	236
Kennel dogs removed	192
Total	526

Horses removed	28
Dogs removed	213
Cats removed	284
Rats removed	1
Total	526

Bureau of Markets and Milk.

Public market inspections	6
Market inspections	34
Fish market inspections	2
Fish peddler inspections	1
Packing house inspections	1
Milk depots inspected	12
Stores inspected	137
Milk cans inspected	160
Lactometer readings	145
Temperature readings	145
Fat tests	74

Sediment tests	60
Bacterial counts	35
Special bacterial examinations	6
Complaints investigated	2

MISCELLANEOUS.

Work certificates issued to children	28
Vaccinations	11
Cases assigned to health physicians	97
Calls made	208
Garbage collected from first district (barrels)	207
Garbage collected from second district (barrels)	211

Medical News

Edited by Arthur J. Bedell, M. D.

ALBANY GUILD FOR THE CARE OF THE SICK.—DEPARTMENT OF VISITING NURSING.—STATISTICS FOR MARCH, 1916.—Number of new cases, 176; classified as follows: Dispensary patients receiving home care, 6; district cases reported by health physicians, 1; charity cases reported by other physicians, 82; moderate income patients, 59; metropolitan patients, 28; old cases still under treatment, 492; total number of cases under nursing care during month, 668. Classification of diseases for the new cases: Medical, 24; surgical, 8; gynecological, 7; obstetrical under professional care, mothers 33, infants 33; eye and ear, 1; skin, 0; throat and nose, 0; dental, 0; infectious diseases in the medical list, 69; surgical list, 1. Disposition: Removed to hospitals, 21; deaths, 20; discharged cured, 67; improved, 20; unimproved, 5; number of patients still remaining under care, 535.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 3; students in attendance, 2; nurses, 3; patients carried over from last month, 2; new patients during month, 7; patients discharged, 5; visits by head obstetrician, 0; attending obstetrician, 43; students, 40; nurses, 73; total number of visits for this department, 156.

Visits of Guild Nurses (all departments).—Number of visits with nursing treatment, 1,208; for professional supervision of convalescents, 662; total number of visits, 1,870; pay visits, 621; charity visits, 587; unrecorded visits, 662; cases reported to the guild by 1 health physician, and 46 other physicians; graduate nurses 8, certified nurses 2, pupil nurses 7 on duty.

Dispensary Report.—Number of clinics held, 78; new patients, 154; old patients, 500; total number of patients treated during month, 654. Classi-

fication of clinics held: Surgical, 12; nose and throat, 8; eye and ear, 14; skin and genito-urinary, 7; medical, 8; lung, 7; dental, 0; nervous, 2; children, 12; gynecological, 8.

Alumni Association, Albany Medical College.—The annual meeting of the Alumni Association of the Albany Medical College will be held on June 9th, 1916. The complete program will soon be published.

Public Health Course, Albany Medical College.—The Albany Medical College announces that the following lectures were delivered during the month of April: "The Social Influence of Mental Defects," Robert W. Hill, Superintendent, Department of State and Alien Poor, State Board of Charities; "Mechanical Equipment of State Institutions," George B. Nichols, Chief Engineer, State Department of Architecture; "Vital Statistics," Dr. Cressy L. Wilbur, Director, Division of Vital Statistics, State Department of Health; "Medical Expert Testimony," Hon. Alden Chester, Justice of the Supreme Court.

Medical Society of the County of Albany.—The regular monthly meeting of the Medical Society of the County of Albany was held at the Elks Club, Thursday, March 23, 1916, at 8.45 P. M. A Symposium on Headache was presented: Neurological, Dr. LaSalle Archambault; general medical, Dr. James F. Rooney; ocular, Dr. Arthur J. Bedell.

Medical Society of the County of Schenectady.—The regular meeting of the Medical Society of the County of Schenectady was held in its rooms in the New County Building, Tuesday, April 11, 1916, at 8.30 P. M. Dr. I. Harris Levy read a paper on "The Diagnosis of Diseases of the Gastrointestinal Tract," illustrated by X-ray slides.

Albany Hospital.—A clinical meeting was held in the amphitheater of the Albany Hospital on Tuesday, March 28th, 1916, at 8.30 P. M. Subject—Involution Period of Life.

Drs. Elting, Sampson, Ordway, Kellert and Bedell spoke on their various special lines. Dr. Heslin presented a case of general arteriosclerosis diagnosed from the eye symptoms.

Medical Society of the State of New York.—The regular annual meeting of the Medical Society of the State of New York will be held on May 16, 1916, at 11 A. M. at the Casino Building, Saratoga Springs, N. Y.

American Medical Association.—The annual meeting of the American Medical Association will be held at Detroit, Michigan, June 12-16.

THE AMERICAN OPHTHALMOLOGICAL SOCIETY.—The annual meeting of the American Ophthalmological Society will be held at the Shoreham Hotel, Washington, D. C., May 9th and 10th, 1916.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.—The tenth annual meeting of the Congress of American Physicians and Surgeons will be held in Washington, D. C., May 9th and 10th, 1916.

Tuesday, May 9th, at 2.30 P. M., the Congress will be opened by the president. Subject to be considered: "Syphilis." Papers will be read as follows, viz.: by Dr. J. A. Fordyce, New York, on "The Diagnosis and General Treatment of Syphilis;" Dr. Homer F. Swift, New York, on "The Treatment of Cerebro-Spinal Syphilis;" Dr. Hugh Cabot, Boston, on "Syphilis and Society;" Dr. W. S. Thayer, Baltimore, president of the Congress gave his address at 8 P. M.

Wednesday, May 10, 1916. Subject to be considered: "Immunization and Its Practical Applications." Papers will be read as follows, viz.: Dr. Theobald Smith, of Princeton, on "The Underlying Problems of Immunization;" Dr. Ludwig Hektoen, Chicago, on "Vaccine Therapy;" Dr. W. H. Park, New York, on "Serum Therapy."

MEETING OF THE AMERICAN ACADEMY OF MEDICINE.—The forty-first annual meeting of the American Academy of Medicine will be held at the Hotel Statler, Detroit, Michigan, June 9-12, 1916.

AMERICAN PROCTOLOGIC SOCIETY.—The eighteenth annual meeting of the American Proctologic Society will be held in Detroit, Michigan, June 12th and 13th, 1916.

MEDICO-PSYCHOLOGISTS MEET.—The seventy-second annual meeting of the American Medico-Psychological Association was held at New Orleans, April 4, 1916.

BUREAU OF HEALTH OF THE CITY OF ALBANY.—The Bureau of Health of the city of Albany has a contract with the Bender Laboratory to do all bacteriological, pathological, biological examinations and chemical tests as may be required by the Bureau of Health. Under this contract, the Bender Laboratory is now prepared to make the following examinations for which outfits have been provided. Wasserman, Widal, Sputum and Diphtheria. Collections of specimens will be made daily at seven P. M.

SARATOGA SPRINGS RESERVATION.—It has been decided to place the minerals springs at Saratoga under the supervision of the State Conservation Commission.

Medical Corps for the United States Navy.—The next examination for admission into the medical corps of the Navy will be held on or about June 16, 1916, at Washington, D. C., Boston, Mass., New York, N. Y., Philadelphia, Pa., Norfolk, Va., Charleston, S. C., Great Lakes (Chicago), Ill., Mare Island, Cal., and Puget Sound, Wash.

The applicant must be a citizen of the United States, between 21 and 20 years of age, a graduate of a reputable school of medicine, and must apply for permission to appear before a board of medical examiners. The application must be in the handwriting of the applicant, and must be accompanied by the following certificates:

testifying from personal knowledge to good habits and moral character.

(a) Letters or certificates from two or more persons of good repute,

(b) A certificate to the effect that the applicant is a citizen of the United States.

(c) Certificate of preliminary education. The candidate must submit a certificate of graduation from an accepted high school or an acceptable equivalent.

(d) Certificate of medical education. This certificate should give the name of the school and the date of graduation.

(e) If the candidate has had hospital service or special educational or professional advantages, certificates to this effect, signed by the proper authorities, should also be forwarded.

Application should reach the Bureau of Medicine and Surgery not later than June 5, 1916.

Successful candidates are appointed assistant surgeons in the medical reserve corps, and if so recommended are subsequently assigned to duty, with full pay and allowances, in attendance upon a course of instruction at the Naval Medical School, Washington, D. C. This course begins annually about October first and lasts about six months. Upon the completion thereof the student officers are given their final examination and, if found qualified, are commissioned as assistant surgeons in the regular medical corps of the navy.

Assistant surgeons are examined for promotion at the expiration of three years' service, and, if successful, become passed assistant surgeons. Promotions to the higher grades are made in the order of seniority to fill vacancies as they are created (by resignation, retirement, or death), and for each promotion a physical and professional examination is required by law.

The pay of an assistant surgeon is $2,000 per year on shore duty, and $2,200 at sea. At the expiration of the three years mentioned in the preceding paragraph, if successful in passing the examination for the rank of passed assistant surgeon, pay on shore is $2,400; at sea, $2,640. After a total of five years in the service, pay on shore is $2,640; at sea, $2,904. Both at sea and on shore, quarters or their equivalent are provided; if these are not available on shore duty, an ample, appropriate

allowance is provided for rental, heat, and light of same. An allowance of eight cents a mile is also provided when traveling on orders.

Full information with regard to physical and professional examinations, with instructions how to submit formal application, may be obtained by addressing the Surgeon General of the Navy, Navy Department, Washington, D. C.

Examination of Candidates for Assistant Surgeon, Treasury Department.—United States Public Health Service. Boards will be convened at the Bureau of Public Health Service, 3 "B" street, S. E., Washington, D. C., and at a number of the marine hospitals of the service, on Wednesday, May 31, 1916, at 10 o'clock A. M., for the purpose of examining candidates for admission to the grade of assistant surgeon in the public health service.

The candidate must be between 23 and 32 years of age, a graduate of a reputable medical college, and must furnish testimonials from two responsible persons as to his professional and moral character, together with a recent photograph of himself. Credit will be given in the examination for service in hospitals for the insane, experience in the detection of mental diseases, and in any other particular line of professional work. Candidates must have had one year's hospital experience or two years' professional work.

Candidates must be not less than 5 feet, 4 inches, nor more than 6 feet, 2 inches, in height, with relatively corresponding weights.

The following is the order of examination: 1, physical; 2, oral; 3, written; 4, clinical.

Candidates are required to certify that they believe themselves free from any ailment which would disqualify them for service in any climate.

Examinations are chiefly in writing, and begin with a short autobiography of the candidate. The remainder of the written exercise covers the various branches of medicine, surgery, and hygiene.

The oral examination includes subjects of preliminary education, history, literature, and natural sciences.

The clinical examination is conducted at a hospital.

The examination usually covers a period of about ten days.

Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order. They will receive early appointments.

After four years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon. Passed assistant surgeons after twelve years' service are entitled to examination for promotion to the grade of surgeon.

Assistant surgeons receive $2,000, passed assistant surgeons $2,400, surgeons $3,000, senior surgeons $3,500, and assistant surgeon-generals

$4,000 a year. When quarters are not provided, commutation at the rate of $30, $40, and $50 a month, according to the grade, is allowed.

All grades receive longevity pay, 10 per cent in addition to the regular salary for every five years up to 40 per cent after twenty years' service.

The tenure of office is permanent. Officers traveling under orders are allowed actual expenses.

For invitation to appear before the board of examiners, address Surgeon-General, Public Health Service, Washington, D. C.

PERSONALS.—Dr. E. RAYMOND SCHILLING (A. M. C. '15), is located at 374 Madison avenue, Albany, having taken the practice of the late Dr. James M. Moore.

DIED.—Dr. DAVID F. ALSDORF (A. M. C '55), for many years a practitioner of Corunna, Mich., died at Guthrie, February 15, 1916, aged 83.

—Dr. JAMES M. MOORE (A. M. C. '94), of Albany. died at his home March 21, 1916, from pneumonia. at the age of forty-three years.

—Dr. AXEL F. SWANSON (A. M. C. '13), died at Southampton. Mass., March 20, 1916. aged 24 years.

In Memoriam

JAMES MANNING MOORE, M. D.

Dr. JAMES MANNING MOORE of the class of 1894 of the Albany Medical College died at his home, 374 Madison avenue, Albany, on the evening of March 21st, 1916.

The immediate cause of death was grip-pneumonia. but it is assumed that Dr. Moore precipitated the fatal result by indifference to the symptoms, for with his customary vigor and activity he attended to the numerous calls of his practice in unfavorable weather after the symptoms of the disease had appeared.

There were certain personal characteristics of Dr. Moore which spoke highly for his sense of professional obligation, and this devotion to the calls of practice had become such an intimate part of his nature that he failed to recognize the need of restraining his activities, even when it became difficult for him to engage in work. He began practice in Albany in 1895, and immediately entered upon a most active career. He was especially noted for his disregard of pecuniary remuneration and answered the calls of the poor without question. His patients became so numerous he had no time for diversion, and night and day were spent in rapid visitation from one house to another.

Dr. Moore was born in Albany September 17, 1872, the son of Dr. Levi Moore, a well known practitioner, and Ida Ferguson Moore His maternal grandfather, Dr. John Ferguson, practiced in Albany and his office was in the immediate neighborhood of the one occupied by Dr. Moore at the time of his death. After graduating from the Albany

Medical College, Dr. Moore became resident physician at the McKeesport Hospital, McKeesport, Pa. For several years he was a lecturer on physical diagnosis in the college. He was a member of the State and county medical societies. He was also a member of Master Lodge of Albany. Dr. Moore is survived by his wife and three children, and also by four brothers and three sisters.

SANFORD BASSLER, M. D.

Dr. Bassler died at his home in Berne, N. Y., on January 13, 1916, following a long illness.

Dr. Bassler was born in the town of Knox, Albany county, September 16, 1865. He was the son of Lavinus and Katherine Weidman Bassler, of Schoharie county. The doctor was a descendant of one of the oldest families in America, tracing his ancestry to the first settlers here. He graduated from the Albany Medical College in the class of 1896. After a few months he married Miss Emma M. Wood of Middleburg and moved to Joliet, Ill., to take up the practice of his chosen profession. He enjoyed a large and lucrative practice there. He was a member of many lodges in fraternal orders, and was examining physician for many orders.

In May, 1906, Dr. Bassler was taken ill and finally removed to a hospital at Joliet, where he lingered between life and death for several months, but improved enough to be operated upon for abscess in the base of the lungs in July of the same year.

In the fall of 1906 Dr. Bassler came east; in the early part of 1907 he and his wife went to Texas. His health was such that for three years he went east, south and west. On May 1, 1911, he came east to stay. In January, 1914, Dr. Bassler began another decline in health, and later suffered a general breakdown from which he never recovered.

In character, Dr. Bassler was a man of refinement, one held in high esteem by all who knew him. His untiring efforts to prove himself of some value to the sick and afflicted, whenever and wherever occasion required, did much to hasten his own affliction and bring on a disease to himself by exposure to rains, cold weather and night work, until the strong self-made man fell a victim. That caused his death, while he was still young and with a bright future in store for him.

Dr. Bassler labored with one end in view: Better to give of what you have and possess while life is yours, than to close up in a bushel. Thus, with his untiring efforts for suffering humanity, we can only say: "He fought a good fight. The battle is won and victory is his." Triumphant in a golden crown that God alone gave him when He claimed him as His own, Dr. Bassler was buried January 15, 1916, under the rites of the Masonic order, of which he was a prominent member. Interment was at Wood family plot at Middleburg. Dr. Bassler leaves a widow and father as his surviving relatives. W. E. DEITZ.

DAVID F. ALSDORF, M. D.

Dr. DAVID F. ALSDORF of the class of 1855 of the Albany Medical College died at the home of his son in Guthrie, Okla., February 15, 1916, aged 83.

Dr. Alsdorf was one of the oldest survivors of the Alumni of the Albany Medical College. Dr. Harmon A. Buck of Burlington, Vt., a classmate of Dr. Alsdorf, is alive, and Dr. S. S. Hance of the class of '54 reported by letter at the Alumni meeting of 1915, stating his age to be ninety years.

Dr. Alsdorf wrote for the meeting of 1915 the following account of his life:

"I would be pleased to meet with survivors of class of '55 but am 82 years old and have not been able to travel for the last two years. Spring of '56 located in Corunna, Mich. Was in general practice there for twenty-five years and worked hard. Was examining surgeon in Provo office during war, pension examiner twenty years, city clerk several years, city assessor several years and examiner for New York Life and several other companies. Went into the drug business in 1867, sold out in 1883, and practically gave up all business except for few old friends. Came here in 1892 and have done nothing but loan a little money and exist on interest. I am pretty near alone in the world. Have one son in business here, a bachelor of forty-eight. The government has paid me over eight thousand dollars for examinations and I have attended over twelve hundred obstetric cases."

Current Medical Literature

PATHOLOGY AND BACTERIOLOGY

Edited by Ellis Kellert, M. D.

The Etiology of Scarlet Fever (A Preliminary Report).

F. B. MALLORY and E. M. MEDLAR. *The Journal of Medical Research, March,* 1916.

The investigation began with the discovery of masses of Gram-positive bacilli in the fibrino-purulent exudate within the crypts of the tonsils from a child dying of scarlet fever. Streptococci were also abundant. Typical bacilli were present on the surface of the tonsil and in small erosions of the tonsillar epithelium. It appeared that the bacilli penetrated between the epithelial cells destroying them.

Similar masses of bacilli were found in the trachea and in the lung in areas of broncho-pneumonia. The reaction is characterized by serum, polynuclear leucocytes and very litle fibrin. In other cases of scarlet fever similar organisms were found.

Mallory believes that scarlet fever may be due to this organism which he names the B. scarletinae. It is strongly Gram-positive, pleomorphic and frequently arranged somewhat like diphtheria bacilli. It is a facultative aerobe and grows best on serum-glycerine-dextrose-agar. The gross lesions produced are inconspicuous but the destruction of tissue permits secondary streptococcus infection.

SILVOL

A Powerful Germicide. Non-Toxic. Non-Irritating.

Contains approximately 20 per cent. of metallic silver.

Freely soluble in water; no sediment on standing.

Does not coagulate albumin; is not precipitated by proteids or alkalies.

Its germicidal power has been conclusively demonstrated clinically.

Indicated in the treatment of

Conjunctivitis,	**Pharyngitis,**
Ophthalmia,	**Vaginitis,**
Otitis,	**Gonorrhea,**
Rhinitis,	**Wounds, Ulcers, etc.**

—in all infections, in short, in which a silver salt is applicable.

Used in aqueous solutions of 5 to 50 per cent.

POWDER: Bottles of one ounce.

CAPSULES (6-grain): Bottles of 50.
Contents of two capsules make one-fourth ounce of a 10-per-cent. solution.

✦ ✦ ✦

SILVOL OINTMENT (5 per cent.), for application to regions where the use of an aqueous antiseptic solution is not feasible. Small and large collapsible tubes with elongated nozzle.

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The attention of physicians is called to the advantages which this institution offers in methods of laboratory diagnosis. Many physicians, through lack of time, technical training, or proper laboratory equipment, find it difficult to utilize the many methods of microscopical and chemical examination, so essential to proper diagnosis. To the Alumni of the Albany Medical School, and to physicians generally, the Bender Laboratory offers at a moderate cost, facilities for such examinations. Animal inoculation, chemical, bacteriological and histological examinations will be made as the case requires.

The following directions are appended for the benefit of those who may forward material:

All specimens should be accompanied by a brief note of the clinical condition and a special reference to the character of the examination desired. Name and address of person to whom report is to be sent should be clearly indicated.

1.—Pathological material from either operation or autopsy should be wrapped in moist gauze surrounded by oiled paper or rubber protective. When it is not possible for material to reach the laboratory within twenty-four hours, it should be placed in alcohol (80%) or formalin solution (10%). Small fragments of tissue and the material from uterine curettage should always be so preserved.

2.—Sputum should be sent in clean wide-mouth bottles; the ordinary vaseline bottle answers all purposes. The same bottle is suitable for faeces. Urine should be in clean bottles containing not less than six ounces.

3.—Exudates and other material requiring a bacteriological examination by culture should be placed in containers previously sterilized by heat (not chemical disinfectants).

4.—Outfits for special purposes, as diphtheria cultures, Widal reaction, vaccines, Wassermann reactions, etc., will be sent upon application.

5.—Tissues and fluids for animal inoculation, e. g., hydrophobia, tetanus, tuberculosis, etc., are best sent packed in ice. In cases of suspected hydrophobia it is advisable to send the entire animal without injury to the brain or cord.

6.—Haematological examinations at the patient's home will be made by appointment.

7.—Milk and water for bacteriological examination should be sent in sterile glass containers, packed in ice. Special instructions for the collection of samples may be had upon application.

8.—Members of the staff are at all times available for the purpose of conducting post-mortem examinations.

9.—The fee for complete haematological examination at patient's home is $10.00; for post-mortem examination, according to the nature of the case and the time consumed; for the Wassermann reaction, $10.00; all other examinations, a uniform fee of $5.00. A special contract may be made for weekly or monthly examinations of milk. In the case of patients who cannot pay the full amount, these fees will be reduced.

Reports will be sent by telegraph if requested.

Letters and specimens should be addressed to

THE BENDER HYGIENIC LABORATORY,
LAKE AVENUE, ALBANY, N. Y.

ALBANY HOSPITAL

New Scotland Avenue

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Consulting Ophthalmologists and Otologists
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HERMAN BENDELL, M. D.

Consulting Physicians
HENRY HUN, M. D.
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